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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/469,960	12/21/1999	MARK L. SKARPNES	10559/095001	5596

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EXAMINER

BLAIR, DOUGLAS B

ART UNIT PAPER NUMBER

2142

DATE MAILED: 03/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/469,960

Applicant(s)

SKARPNESS, MARK L.

Examiner

Douglas B Blair

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 3-10 and 13-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3-10 and 13-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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**DETAILED ACTION**

***Response to Amendment***

1. Claims 3-10 and 13-24 are currently pending in the application.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 17 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 17 and 18 have been amended to depend on claim 11. Claim 11 has been cancelled so therefore it is unclear which claim claims 17 and 18 should depend on. For examination purposes it will be assumed that claims 17 and 18 are to depend on claim 13.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C.

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122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 3-5, 13-15, and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Number 6,205,150 to Ruszczyk.

6. As to claim 3, Ruszczyk teaches a computer system (The router in Figure 4) comprising: a host processor (col. 4, lines 30-45, A processor is an inherent part of a computer system.); a peripheral device configured to transfer data to the post processor over an attachment bus using at least first and second types of data transfers (In Figure 4, the promoter, sorter, and related queues act as a peripheral device in the system. The High Priority Queue and the Low Priority Queue are two transfers. A bus is an inherent part of the computer system.), comprising: a classifying circuit configured to separate the data into a first class associated with the first type of transfer and a second class associated with the second type of transfer (col. 5, lines 14-31); a first queue connected to receive the first class of data from the classifying circuit (col. 5, lines 14-31); a second queue connected to receive the second class of data from the classifying circuit (col. 5, lines 14-31); and control circuit configured to place data from the first queue onto the bus at a higher priority than the data from the second queue is placed onto the bus (col. 5, lines 61-67 and col. 6, lines 1-9); where the bus is configured to receive data during time periods of predetermined length, and where the controller is configured to place at least a minimum amount of data from the first queue onto the bus during each time period (col. 6, lines 47-67 and col. 7, lines 1-9); and Ruszczyk teaches a system where the controller is configured to place data from the second queue onto the bus when the bus is otherwise unoccupied (col. 5, lines 61-67 and col.

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6, lines 1-26, The scheduling algorithms discussed will allow the second queue to transmit when the first queue is empty.).

7. As to claim 4, Ruszczyk teaches a system where the router includes a network interface component connected to receive the data from a computer network (In Figure 4, the router receives data from the network consisting of computers 12, 14, and 16 and network device 22.).

8. As to claim 5, Ruszczyk teaches a system wherein the data includes packetized voice data (col. 2, lines 48-67 and col. 3, lines 1-6).

9. As to claims 13-15, they claim a method with limitations corresponding to those of the computer system of claims 3-5 and therefore are rejected for the same reasons as claims 3-5.

10. As to claim 23, it claims a peripheral device that corresponds to the peripheral device claimed as part of the system of claim 3 and is therefore rejected for the same reasons as claim 3.

### ***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 6 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 6,205,150 to Ruszczyk.

13. As to claim 6, it features the same limitations as claim 3 with the addition of the bus being a Universal Serial Bus and the peripheral device is configured to transfer data over the bus using isochronous and bulk transfers. Ruszczyk teaches a system where the router is configured

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to transfer data over the network using isochronous and bulk transfers (col. 5, lines 61-67 and col. 6, lines 1-26, The round robin scheduling of the queues is an example of isochronous transfer and the guaranteed scheduling is an example of bulk scheduling.); however, Ruszczyk does not explicitly teach the use of a Universal Serial Bus.

Official notice is taken that it is well known in the Computer Networking art to use a Universal Serial Bus to connect to computing devices.

It would have been obvious to one of ordinary skill in the Computer Networking art at the time of the invention to combine the teachings of Ruszczyk regarding a system for providing prioritized data trafficking over a bus with a Universal Serial Bus because a Universal Serial Bus is a common bus choice.

14. As to claim 24, it claims a peripheral device that corresponds to the peripheral device claimed as part of the system of claim 6 and is therefore rejected for the same reasons as claim 6.

15. Claims 7-10 and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 6,205,150 to Ruszczyk in view of RFC 2212 entitled "Specification of Guaranteed Quality of Service" by Shenker et al..

16. As to claim 7, the teachings of Ruszczyk combine to make claim 1 obvious; however; they do not explicitly teach a predetermined length for packets.

Shenker teaches a system wherein packets have a maximum length (Page 5).

It would have been obvious to one of ordinary skill in the Computer Networking art at the time of the invention to combine the teachings of Ruszczyk regarding a system for providing prioritized data trafficking over a bus with the teachings of Shenker regarding maximum packet

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size in a quality of service system because Ruszczyk discusses the teachings of Shenker as part of Ruszczyk's disclosure (col. 5, lines 14-31).

17. As to claim 8, Ruszczyk teaches a system where the classifying circuit is configured to place each of the packets into one of the classes (col. 5, lines 5-60).

18. As to claim 9, Ruszczyk teaches a system where a portion of each packet indicates the type of transfer associated with the packet, and where the classifying circuit includes a storage device that stores information indicating each of the type of transfer that is associated with at least one of the classes (col. 5, lines 5-60, The router must have the types of transfers associated with each class stored in order to function.).

19. As to claim 10, Ruszczyk teaches a system where the classifying circuit includes a selection element configured to compare, for each packet, the information in the storage device to the data in the portion of the packet that indicates the type of transfer and configured to select a corresponding one of the queues to receive the packet (col. 5, lines 5-60).

20. As to claims 16-19, they have similar limitations to claims 7-10, respectively and are thus rejected on the same basis as claims 7-10.

21. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 6,205,150 to Ruszczyk in view of RFC 2212 entitled "Specification of Guaranteed Quality of Service" by Shenker et al. as applied to claim 9 above, and further in view of U.S. Patent Number 6,519,666 to Azevedo et al..

22. As to claim 20, the Ruszczyk-Shenker combination combines to make claim 9 obvious; however they do not teach the classifying circuit comprising a buffer, a shift register, and a content addressable memory device.

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Azevedo teaches a system where a classifying circuit has a buffer, a shift register, and content addressable memory (col. 5, lines 19-43).

It would have been obvious to one of ordinary skill in the Computer Networking art to combine the teachings of Ruszczyk-Shenker regarding system for prioritized data trafficking over a bus with the teachings of Azevedo regarding the use of a buffer, a shift register, and a content addressable memory in a classifying circuit because they are common hardware components.

23. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 6,205,150 to Ruszczyk in view of U.S. Patent Number 6,519,666 to Azevedo et al..

24. As to claim 21, Ruszczyk teaches the system of claim 3; however Ruscyk does not explicitly teach a PCI bus.

Azevedo teach a PCI bus (col. 5, lines 44-50).

It would have been obvious to one of ordinary skill in the Computer Networking art to combine the teachings of Ruszczyk regarding system for prioritized data trafficking over a bus with the teachings of Azevedo regarding the use of a PCI bus because a PCI is a common choice for bus communications.

25. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 6,205,150 to Ruszczyk in view of U.S. Patent Number 5,941,952 to Thomas et al..

26. As to claim 22, Ruszczyk teaches the system of claim 3; however Ruscyk does not explicitly teach a using ATM over a bus.

Thomas teaches a bus using ATM (col. 6, lines 1-16)



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It would have been obvious to one of ordinary skill in the Computer Networking art to combine the teachings of Ruszczyk regarding a system for prioritized data trafficking over a bus with the teachings of Thomas regarding a the use of ATM over a bus because ATM provides an efficient communication protocol.

***Response to Arguments***

27. Applicant's arguments filed 1/14/2003 have been fully considered but they are not persuasive. The applicant argues the following points: (a) Ruszczyk does not disclose or suggest a bus between a host processor and a peripheral device configured to receive data during time periods of a predetermined length; (b) Ruszczyk does not disclose or suggest a control circuit configured to place at least a minimum amount of data from a first queue onto the bus during each time period and place data from a second queue onto the bus only when the bus is otherwise unoccupied; (c) Ruszczyk does not disclose or suggest a Universal Serial Bus; (d) Ruszczyk does not disclose or suggest isochronous and bulk transfers; and (e) the Shenker reference was not provided with the office action and not cited on the PTO-892 form accompanying the first office action.

28. As to point (a), in col. 4, lines 48-67 of Ruszczyk a transmission deadline is discussed which is a predetermined length of time.

29. As to point (b), in col. 5, lines 61-67 and col. 6, lines 1-9, the guaranteed scheduler schedules packets from the first queue within a certain time period. The round robin scheduler sends packets from the second queue when the guaranteed scheduler is not operating. This is evident by the fact that the guaranteed scheduler can starve the round robin scheduler out (col. 5,

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lines 32-60) and in Figure 4, the round robin scheduler is shown to be able to send data packets to the transmitter.

30. As to point (c), it was conceded in the original office action that Ruszczyk does not explicitly teach the use of a USB bus. Official notice was taken that it was well known at the time of the invention to use a USB bus to transmit data.

31. As to point (d), interpreted broadly, the round robin scheduler is considered a an isochronous transfer and the guaranteed scheduler is considered a bulk transfer. Although the claims are read in light of the specification, limitations from the specification are not read into the claims.

32. As to point (e), the Shenker reference was cited as non-patent literature on the original PTO-892 form from the first office action. If a copy of the reference was not received by the applicant the applicant should have informed the examiner in a timely manner that the Shenker reference was absent, obtained a copy from the URL listed for retrieving the Shenker reference from the cited Ruszczyk reference, or gone to [www.ietf.org](http://www.ietf.org) or other similar sites and retrieved the RFC standard. Therefore the applicant had the opportunity to consider this reference.

### ***Conclusion***

33. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


34. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas B Blair whose telephone number is 703-305-5267. The examiner can normally be reached on 8:30am-5pm Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Powell can be reached on 703-305-9703. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3800.

Douglas Blair  
March 11, 2003

DBB

  
MARK R. POWELL  
SUPERVISORY PATENT EXAMINER  
GROUP 2400